# MIPS Observations of Disks

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Observations with MIPS of debris disks around 266 stars of mass roughly $2.5M_{\text{Sun}}$ demonstrate the following. Many young stars (even only $\sim$ 5–15 million years old) have very small excesses. Among the stars with excesses, the upper envelope of the extent of the excess emission appears to decay roughly inversely with the age of the star. The disks that are strong at 24 $\mu$m (corresponding to roughly the 10–60 AU zone in these stars) largely disappear after 100–200 million years. The interpretation of these observations is bounded by two extreme cases. First, we could assume that we are seeing a large intrinsic variety in debris disks, with some stars not retaining significant disks at all, others forming massive planets very early and clearing their disks quickly, while still others form planets only over 100 million year timescales. The inverse age dependence of the decay in this case is consistent with predictions from collisional cascade theory for the generation of the disks. Second, we could assume that the disks are intrinsically very similar, and that we are witnessing the effects of a low rate, per system, of major planetesimal collisions, effects that clear over a few million years. In partial support of this second possibility, I contrast the properties of the disks around Fomalhaut, Vega, $\zeta$ Lep, HD 71155, and HD 79108. All five stars are of roughly the same mass (2.5 solar masses) and age (about 200 million years), yet their debris systems show an astoundingly large variety.